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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,609	03/25/2004	Heinz-Gerd Klaes	1/1479	7229

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EXAMINER	
MCINTOSH III, TRAVISS C	
ART UNIT	PAPER NUMBER
1623	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/809,609	KLAES ET AL.	
	Examiner	Art Unit	
	Traviss C. McIntosh	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-57* is/are pending in the application.

4a) Of the above claim(s) *21-41* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20 and 42-57* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election of Group I in the reply filed on 10/31/2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 21-41 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Specification

The specification is objected to wherein the specification recites on pages 26, line 31 – page 27, line 2, "The pharmaceutical combination according to this invention can be tested for additive and synergistic activity against HIV according to a number of assays known in scientific and public literature, including the one described in the WO98/44913 and WO00/51641, which are included herein by way of reference." Mere reference to another application, patent, or publication is not an incorporation of anything therein into the application containing such reference for the purpose of the disclosure required by 35 U.S.C. 112, first paragraph. ***In re de Seversky, 474 F.2d 671, 177 USPQ 144 (CCPA 1973).***

Applicant is required to delete above "incorporation by reference" recitation, or amend specification wherein particular attention should be directed to specific portions of the referenced document where the subject matter being incorporated may be found.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 5 is drawn to a composition wherein formula I and formula II are present in a synergistic ratio. However, applicants have not made any synergistic ratios. Applicants rely on various references to teach of assays to determine synergistic ratios (as set forth supra), as such, could not have been in possession of the ratios of compounds which would actually have a synergistic relationship.

Claims 1-20 and 42-57 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for compositions for treating viral infections, does not reasonably provide enablement for compositions for preventing viral infections. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims.

Undue experimentation is a conclusion reached by weighing the noted factual considerations set forth below as seen in ***In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400,***

1404 (Fed. Cir. 1988). A conclusion of lack of enablement means that, based on the evidence regarding a fair evaluation of an appropriate combination of the factors below, the specification, at the time the application was filed, would not have taught one skilled in the art how to make and/or use the full scope of the claimed invention without undue experimentation.

These factors include:

(A) The breadth of the claims;
(B) The nature of the invention;
(C) The state of the prior art;
(D) The level of one of ordinary skill;
(E) The level of predictability in the art;
(F) The amount of direction provided by the inventor;
(G) The existence of working examples; and
(H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure.

The breadth of the claims - The nature of the invention

The claims are drawn to compositions and kits for treating or preventing viral infections comprising the compound of formula I and II and additional agents.

The state of the prior art

The compounds of formula I are known to be effective in viral treatment, as seen by WO01/96338. The compounds of formula II are known to be effective in treating viral infections as seen by WO88/00050. At present, there are no known agents capable of preventing any and/or all viral infections.

The level of predictability in the art

The examiner acknowledges the probability and predictability that the active agents, indeed have efficacy in treating viral infections, however the art is silent with regard to the predictability of effectively preventing the development of viral infections.

The amount of direction provided by the inventor

The instant specification is not seen to provide adequate guidance which would allow the skilled artisan to extrapolate from the disclosure and examples provided to use the claimed method commensurate in the scope with the instant claims. There is a lack of data and examples which adequately represent the scope of claim as written. The examiner notes, there has not been provided sufficient instruction or sufficient methodological procedures to support the alleged efficacy of prevention instantly asserted.

The existence of working examples

The specification is seen to have tables with various combinations of agents listed, but have not been seen to have made or tested any of the combinations.

There has not been provided sufficient evidence which would warrant the skilled artisan to accept the data and information provided in the working examples as correlative proof that a healthy individual would never become afflicted with any viral infection if subjected to the instantly claimed compositions.

The quantity of experimentation needed to make and use the invention based on the content of the disclosure

Indeed, in view of the information set forth supra, the instant disclosure is not seen to be sufficient to enable the claimed combinations for preventing viral infections. One skilled in the art could not use the entire scope of the claimed invention without undue experimentation.

Reasonable guidance with respect to preventing any condition relies on quantitative analysis from defined populations which have been successfully pre-screened and are predisposed to particular types of the condition. This type of data might be derived from

widespread genetic analysis, cancer clusters, or family histories. The essential element towards the validation of a preventive therapeutic is the ability to test the drug on subjects monitored in advance and *link* those results with subsequent histological confirmation of the presence or absence of disease. This irrefutable link between antecedent drug treatment and subsequent knowledge of the prevention of the disease is the essence of verification of a valid preventive agent.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 and 42-57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, it is unclear if the bonds at positions 1', 2', 3', and 4' are methyl groups, as in normal chemical representation, or hydrogen groups. It is noted the examiner believes applicants intended these to be H atoms.

Claim 2 recites the limitation " state the compound of formula II is 3'-deoxy-3'-fluorothymidine " in the second line. There is insufficient antecedent basis for this limitation in the claim. It is noted that claim 1 requires the compound to be 2'-3'-dideoxy, which is 3'-deoxy-3'-fluorothymidine is not. Claims 4, 43, and 45 are rejected for the same reasons.

Independent claims 8-18 and 47-56 are drawn to compositions and kits comprising various agents, such as a further nucleoside reverse transcriptase inhibitor, a protease inhibitor, an entry inhibitor, an integrase inhibitor, maturation inhibitors, antisense compounds, or non-

nucleoside reverse transcriptase inhibitors, but fail to state what the actual additional compound is. The use of this functional language is seen to be indefinite as it does not allow a skilled artisan to know the metes and bounds of the claim. For example, if another artisan were to administer a composition having formula I and II in it, and an additional agent which has unknown properties, they would not know whether they were infringing on the instant claims or not, as the additional compound may or may not have any of the claimed functional characteristics. Per the MPEP:

> The second paragraph of 35 U.S.C. 112 is directed to requirements for the claims: The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention. There are two separate requirements set forth in this paragraph:
> (A) the claims must set forth the subject matter that applicants regard as their invention; and
> (B) **the claims must particularly point out and distinctly define the metes and bounds of the subject matter** that will be protected by the patent grant.

> Although an essential purpose of the examination process is to determine whether or not the claims define an invention that is both novel and nonobvious over the prior art, **another essential purpose of patent examination is to determine whether or not the claims are precise, clear, correct, and unambiguous**. The **uncertainties of claim scope should be removed**, as much as possible, during the examination process.
> The inquiry during examination is patentability of the invention as applicant regards it. If the claims do not particularly point out and distinctly claim that which applicants regard as their invention, the appropriate action by the examiner is to reject the claims under 35 U.S.C. 112, second paragraph. In re Zletz, 893 F.2d 319, 13 USPQ2d 1320 (Fed. Cir. 1989).

The use of the functional language to define that which is included in applicants invention is not seen to clearly allow a skilled artisan to know the metes and bounds of the claimed subject matter, as not all compounds have been tested to see if they have any of the claimed characteristics. Moreover, in review of the specification to determine what applicant defines these various functionally defined compounds as encompassing, it is noted that

applicants use exemplary language to define that which they intend. Exemplification is not an explicit definition of anything as required by 112 2nd paragraph. If applicants are relying on the specification for a definition, the specification must clearly set forth the definition explicitly and with reasonably clarity, deliberateness, and precision. See ***Teleflex Inc. v. Ficosa North America Corp., 63 USPQ2d 1374, 1381 (Fed. Cir. 2002); Rexnord Corp. v. Laitram Corp., 60 USPQ2d 1851, 1854 (Fed. Cir. 2001);*** and MPEP 2111.01.

All claims which depend from an indefinite claim are also indefinite. ***Ex parte Cordova, 10 U.S.P.Q. 2d 1949, 1952 (P.T.O. Bd. App. 1989).***

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 6-20 and 42-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO01/96338 (the '338 document) in view of WO88/00050 (the '050 document).

The claims of the instant application are drawn to combinations of compounds of formula I and II for treating viral infections. Claims 2-4 and 43-45 limit the actual compounds. Claim 9 limits the amounts of agents. Claims 7-20 and 46-57 add additional agents to the composition.

'338 teaches the compounds of formula I and their use in treating viral infections (see abstract). What is not taught is the combination with the compounds of formula II.

'050 teaches the compounds of formula II and their use in treating viral infections (see abstract). What is not taught is to the combination with the compounds of formula I.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the compounds of formula I and II and the additional viral treating agents with these references before them. It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose. The idea of combining them flows logically from their having been individually taught in the prior art. ***In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069,***

1072 (CCPA 1980). (Claims to a process of preparing a spray-dried detergent by mixing together two conventional spray-dried detergents were held to be prima facie obvious.). See also ***In re Crockett, 279 F.2d 274, 126 USPQ 186 (CCPA 1960)*** (Claims directed to a method and material for treating cast iron using a mixture comprising calcium carbide and magnesium oxide were held unpatentable over prior art disclosures that the aforementioned components individually promote the formation of a nodular structure in cast iron.); and ***Ex parte Quadranti, 25 USPQ2d 1071 (Bd. Pat. App. & Inter. 1992)*** (mixture of two known herbicides held prima facie obvious). In the instant case, the '338 document teaches that the compounds of formula I are effective as antiviral agents. The '050 document teaches that the compounds of formula II are effective as antiviral agents. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the art recognized agents to form a new composition which will be used for the very same purpose, an antiviral agent, with these references before them. One would have been motivated to combine these agents to form a new composition which would be used for the very same purpose, as an antiviral agent.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Traviss C. McIntosh whose telephone number is 571-272-0657. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia A. Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Traviss McIntosh
January 7, 2007

Shaojia A. Jiang
Art Unit 1623
Supervisory Patent Examiner

SAJ 1/8/07

1/8/07